

AMENDMENTS TO THE CLAIMS:

JC17 Rec'd PCT/PTO 21 JUN 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-11. (Cancelled)

12. (New) A fuel injector comprising:

one of a piezoelectric, electrostrictive and magnetostrictive actuator;

a valve spring;

a valve-closure member;

a valve needle, which is in operative connection with the actuator and acted upon with a restoring force in a closing direction by the valve spring to actuate the valve-closure member; and

a hydraulic coupler which encompasses a piston engaging at least partially in a receiving opening and forming a coupler gap therewith that is filled with a hydraulic fluid, wherein a cavity is formed in the piston, the cavity being open toward the coupler gap and at least partially filled with the hydraulic fluid and forms a compensating chamber.

13. (New) The fuel injector according to claim 12, wherein a throttle opening having a reduced flow-cross section is situated between the compensating chamber and the coupler gap.

14. (New) The fuel injector according to claim 12, further comprising a sealing diaphragm, and wherein the coupler gap discharges outside the receiving opening in a further compensating chamber, which is likewise filled with hydraulic fluid and delimited by a sealing diaphragm.

15. (New) The fuel injector according to claim 14, wherein the sealing diaphragm is formed by a corrugated tube.

16. (New) The fuel injector according to claim 12, further comprising a compensating piston situated in the cavity.

17. (New) The fuel injector according to claim 16, further comprising a compression spring for applying a force on the compensating piston.
18. (New) The fuel injector according to claim 16, wherein the compensating piston is configured as a differential piston.
19. (New) The fuel injector according to claim 18, wherein a fuel pressure acts on the differential piston on a side facing away from the compensating chamber.
20. (New) The fuel injector according to claim 19, wherein the differential piston is additionally acted upon by a force of a compression spring.
21. (New) The fuel injector according to claim 19, wherein the differential piston has a cylindrical nose which projects into an interspace filled with fuel.
22. (New) The fuel injector according to claim 21, wherein the interspace is connected via a throttle line to a blind hole which is used to supply the fuel injector with fuel.